May We Re-introduce a Perennial Aldrich Favorite

N-methyl-N'-nitro-N-nitrosoguanidine (MNNG)

The very first product offered by Aldrich was *N*-methyl-*N'*-nitro-*N*-nitrosoguanidine (MNNG), sold solely as a precursor for diazomethane. Beyond a doubt, it is the most convenient precursor : stable, beautifully crystalline, generating diazomethane with **aqueous** alkali.[1] However, it has serious drawbacks. It is the most powerful mutagenic agent[2] known and some people exposed to it develop a skin sensitivity. Also, the crude MNNG as obtained from the aqueous nitrosation is pyrophoric. The recrystallized product is not, and furthermore, it is so nicely crystalline that it can be weighed easily without contact with the skin.

For larger scale production of diazomethane, our Diazald® has advantages over MNNG. It is not a skin irritant and it costs much less. However, Diazald® has two disadvantages: *(i)* a shelf-life of only one to two years, and *(ii)* the generation of diazomethane requires **alcoholic** alkali, aqueous alkali being ineffective. Thus, many scientists, particularly biochemists, who require only small quantities of diazomethane have continued to use our MNNG.

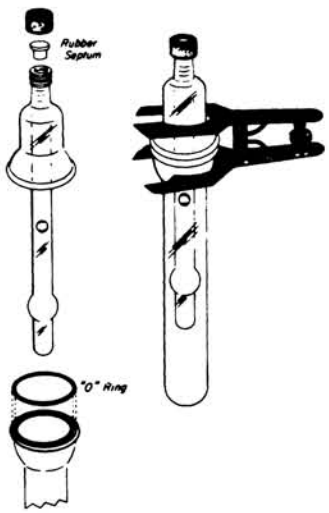

Figure 1. Apparatus for preparing diazomethane • Z10,100-1 and Z10,102-8

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The standard preparation of diazomethane involves adding MNNG to a cold 50% aqueous potassium hydroxide solution covered with ether, and then codistilling the diazomethane with the ether. Diazomethane has been reported to be explosive, particularly on contact with ground glass joints, and so generations of chemists have watched this codistillation with trepidation. We now offer two sets of apparatus which allow safe, more convenient generation of diazomethane either with or without distillation.

The first of these enables the preparation of diazomethane from MNNG **without distillation.**[3] Thus, MNNG is placed in the inner chamber and cold ether is introduced into the outer chamber of the apparatus (fig. 1, millimole or micromole size), 5*N* sodium hydroxide is then injected through the silicon septum onto the MNNG and diazomethane collects in the ether, ready for use. Higher diazoalkanes can be prepared from our other *N*-alkyl-*N'*-nitro-*N*-nitrosoguanidines (ethyl, propyl, butyl, are available) as can their deuterated and tritiated analogs.[4,5] Our Diazald® Kit for the generation of diazomethane from Diazald® features smooth Clear-Seal® joints which avoid the hazards associated with ground glass joints. Deuterated diazomethane is easily prepared using our Deutero Diazald® Prep Set which contains instructions and chemicals necessary for generating 50 mmoles of deuterated diazomethane.

12,994-1	***N*-Methyl-*N'*-nitro-*N*-nitrosoguanidine** **10g $10.00; 14.7g† $15.50; 25g $22.00**
E4160-5	***N*-Ethyl-*N'*-nitro-*N*-nitrosoguanidine** **10g $8.50; 50g $28.20**
14,319-7	***N'*-Nitro-*N*-nitroso-*N*-propylguanidine** **5g $8.70; 17.5g† $20.95; 25g $29.00**
14,223-9	***N*-Butyl-*N'*-nitro-*N*-nitrosoguanidine** **5g $9.50; 25g $31.65**
D2800-0	**Diazald®** **21.4g† $2.40; 100g $6.00; 1kg $45.00; 10kg $350.00**
Z10,100-1	**MNNG-Diazomethane Kit, millimole size $17.00**
Z10,102-8	**MNNG-Diazomethane Kit, micromole size $16.00**
Z10,025-0	**Diazald® Kit $74.00**
16,484-4	**Deutero Diazald® Prep Set $50.00**

† Denotes molar unit

References

1) A.F. McKay, *J.Amer. Chem. Soc.*, **70**, 1974 (1948).
2) J.D. Mandell and J. Greenberg, *Biochem. Biophys. Res. Commun.*, **3**, 575 (1960); E.A. Adelberg, M. Mandel and G.C.C. Chen, *ibid.*, **18**, 788 (1965).
3) H.M. Fales, T.M. Janouni and J.F. Babashak, *Anal. Chem.*, **45**, 2302 (1973).
4) W.B. Denmore, N.D. Pritchard and N. Davidson, *J. Amer. Chem. Soc.*, **81**, 5874 (1959).
5) J.R. Campbell, *Chem. and Ind.*, 540 (1972).

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Applications are invited for a postdoctoral fellowship in collaboration with Dr W. S. Murphy on the synthesis of new estrogen hormones. A background in steroid chemistry or organic synthesis would be an advantage.

The appointment will be for one year in the first instance, commencing on 1 October, 1974.

Salary within scale of £2100—£2465 depending on experience. There is provision for attendance at conferences. Demonstrating is optional (£300 extra p.a.).

Applications with a full curriculum vitae and the names of two referees should be sent to the Personnel Officer, U.C.C., so as to reach him not later than 5 p.m. on Friday 16 August, 1974.

UNIVERSITY OF LEICESTER

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Applications are invited for a Postdoctoral Fellowship (S.R.C.) to devise synthetic methods using reactive intermediates. The appointment is available for one year (Salary £2118 p.a. + F.S.S.U.) from 1 October, 1974, although a later starting date may be arranged. Applications, together with the names of two referees should be addressed to Dr R. S. Atkinson, Department of Chemistry, The University, Leicester LE1 7RH.

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DEPARTMENT OF CHEMISTRY

SRC

RESEARCH TECHNICIAN

Applications are invited for an SRC research position in each of the following areas:

(a) Nmr investigations of organothallium compounds. Apply to Dr R. W. Matthews.

(b) The study of 'template synthesis' and catalysis by transition metal ions. Apply to Dr P. A. Tasker.

The appointments will be made for two years only with salary in the range £1824—£2094. Applicants for either position should be chemistry graduates or have experience in synthetic chemistry and should write as soon as possible, giving details of qualifications and experience, with the names of two referees, to the above at the Department of Chemistry, The Polytechnic of North London, Holloway, London N7 8DB.

THE POLYTECHNIC OF NORTH LONDON

Chemistry Department

POST-DOCTORAL RESEARCH FELLOWS

Applications are invited from suitably qualified research workers for two Research Fellowships, to work on the following projects, which are supported by the Science Research Council.

1. **A Biogenetically-patterned Corrin Synthesis. Experience in synthetic organic chemistry would be an advantage for this project.**
2. **Structural Studies of the Coordination Template Effect of Metal Ions. Experience of X-ray crystallographic work is desirable for this project.**

The appointments will be temporary, initially for two years. The salary scale is £2151 x 90 x £2421 and paid part-time teaching work may be available in addition.

Applicants should reply giving details of qualifications and experience, and the names of two referees to Dr A. P. Johnson (for post 1) or Dr P. G. Owston (for post 2), Chemistry Department, The Polytechnic of North London, Holloway Road, London N7 8DB.

UNIVERSITY OF SALFORD

DEPARTMENT OF CHEMISTRY AND APPLIED CHEMISTRY

POSTDOCTORAL FELLOWSHIP IN PHYSICAL ORGANIC CHEMISTRY

A postdoctoral research fellowship is available for investigations into factors affecting the stereoselectivity of enamine reactions, in collaboration with Dr P. W. Hickmott, tenable from October, 1974. The investigation will be concerned with the determination of the relative positions of the transition states for the reaction of enamines with a series of electrophilic reagents and the determination of the relevant thermodynamic parameters.

The award is available for one or two years for candidates with the necessary experience in synthesis and spectroscopic methods of structure elucidation.

Salary within the range: £2118 - £2412 p.a. F.S.S.U.

Applications forms may be obtained from the Registrar, University of Salford, Salford M5 4WT to whom they should be returned by **23 August, 1974** quoting reference CH/163.

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POST-DOCTORAL RESEARCH ASSISTANTSHIP

Applications are invited for a Post-Doctoral Research Assistantship, to work on biosynthetically modelled routes to the synthesis of prostaglandins in collaboration with Dr. D. I. Davies.

The appointment, financed by S.R.C. (Salary: First year £1929 + £213 London Allowance plus F.S.S.U. benefits with appropriate increments in the second year) is for a maximum two years, starting from 1st October 1974 or as soon as possible thereafter.

Applications by letter, giving a curriculum vitae and naming two referees to Dr. I. Davies, (CC), Chemistry Department, King's College, Strand, London WC2R 2LS.

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